

REMARKS

The Examiner is thanked for his review of the present application. Independent claims 1 and 15 have been amended to more effectively define the scope of the claimed invention. Dependent claims 4-6, 8-9, 11-13, 24, 39, and 48 have been amended in order to render them consistent with independent claims 1 and 15, and to correct inadvertent typographical errors. No new matter is presented by these amendments.

Claims 1, 4-6, 8-15, 18-26, 39-42, 45, and 47-48 were rejected under 35 USC Section 103(a) as being unpatentable over Rangachari et al. (US Patent 6,470,227), in view of Tadokoro et al. (US Patent 6,463,352), further in view of Tenney et al. (US Patent 6,944,584), further in view of Haverstock (US 6,192,415). This rejection is respectfully traversed, in light of the clarifying amendments presented herein.

As noted, the independent claims 1 and 15 have been amended to more clearly define the embodiments claimed herein. Specifically, the “plurality of tools” has been defined as “physical tools used in a factory for transporting or processing semiconductor wafers.” Moreover, the “object field” and the “function field” have been further defined as “identifying a tool object model for an identified tool, the tool object model providing a logical description for use in an automatic control environment of the factory and associated with the plurality of tools.” Additionally, “the logical description provided by the tool object model enables the control of the action and determination of physical parameters of the identified tool to determine when to initiate the action.” Support for these amendments can be found on pages 1-2, 18-19 of the as-filed application.

The Rangachari reference discloses an object-oriented programming environment for configuring application objects into a tool process workflow. Rangachari discloses that “workflows 106 may be created or modified by manipulating a graphical user interface (GUI) to lay out activities and sub-processes as a series of connected activity objects.” Col. 9, lines 22-25. A GUI is used to manipulate activity clients 108 to design and modify workflows 102. Col. 9, lines 33-36. At best, the GUI in Rangachari comprises a “remote client system.” However, Rangachari does not disclose the use of a web browser-type interface, much less that an application server receives a request from the GUI “containing a uniform resource locator path

including a function field and an object field.” The GUI disclosed in Rangachari requires more cumbersome means of effecting object identification and functional command/control than the efficient URL-based method of Applicant’s claimed invention.

The Tadokoro reference discloses a system for managing the process flow of cutting machines. In the system, data acquisition devices send information to a virtual machine component, which runs on a personal computer. Each personal computer has its own unique IP address and is assigned to a tool. Tadokoro discloses that an IP address is equivalent to a uniform resource locator (URL) because a URL corresponds to an IP address. Col. 10, lines 1-25. However, an IP address is not equivalent to a “uniform resource locator path including a function field and an object field.” Tadokoro cannot determine what function to perform on a tool “identified in said object field in said uniform resource locator path based on said function field in said uniform resource locator path.” In other words, Tadokoro cannot determine what function to perform on a tool based on the IP address assigned to the personal computer. At best, Tadokoro would modify the object-oriented programming environment in Rangachari by adding a unique IP address of a computer to the workflow process.

The Tenney reference is cited as disclosing use of a web browser for controlling motions of devices. However, Tenney specifically discloses the use of an additional applet which must be run within a web browser. Col. 6, lines 57-59. In contrast, Applicant’s claimed invention does not require an additional applet, as it utilizes a “uniform resource locator path including a function field and an object field.” Applicant’s claimed invention thus provides a more efficient method of communication which does not require the development of additional applets; nor are remote clients required to experience delays caused by downloading additional software.

The Haverstock reference was cited as disclosing a server to respond to URL requests containing action commands from a browser. However, Haverstock merely presents a system for communicating non-HTML arguments in a URL in the context of databases (e.g. a Lotus Notes database, Col. 4, lines 54-55) and software-based applications (e.g. Lotus Notes, Col. 6, lines 1-15). There is no suggestion that such databases or applications are linked in any way to real-world physical devices, much less affecting the control and operation of such physical devices. In fact, Haverstock discloses such software-specific features as a command cache which recycles

previously executed commands. Col. 7, lines 24-47. Such a feature would not be conducive to the operation of physical tools for transport and processing of semiconductor wafers, due to the dynamic nature of manufacturing operations.

In contrast to Haverstock, Applicant's invention is directed to a system for managing physical tools in a factory for transporting or processing semiconductor wafers. The transport and processing of semiconductor wafers is a highly complex and dynamic enterprise with significant interdependencies. Loss of yield due to misdirection of transport and processing tools can be very costly, as even a single wafer may be of very significant value. Therefore, it is essential that the management of transport and processing tools be conducted with a high degree of precision, such that the appropriate physical parameters are determined before an action is performed. This requires a sophisticated tool object model which is capable of evaluating physical parameters to ascertain the appropriate timing of activity. Haverstock does not disclose any such association of an object model to a real-world physical device, and therefore does not provide motivation for combination with the other references.

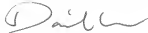
In sum, it is respectfully submitted that given the teachings of Rangachari, Tadokoro, Tenney, and Haverstock, one skilled in the art would not consider the now-claimed embodiments obvious. Applicant's claimed invention defines a non-obvious approach to the management and control of physical transport and processing tools for semiconductor wafers. Therefore, withdrawal of the rejection and passage of claims 1 and 15 to allowance is respectfully requested. Claims 4-6, 8-15, 18-26, 39-42, 45, and 47-48 depend from newly amended claims 1 and 15, and are allowable by virtue of their dependence.

In view of the foregoing amendments to the claims and the above remarks, the Office is respectfully requested to withdraw the Section 103(a) rejections, and is requested to consider the newly amended claims as overcoming the teachings of Rangachari, Tadokoro, Tenney, and Haverstock.

A Notice of Allowance is respectfully requested. If any questions remain, the undersigned can be contacted at (408) 749-6903.

If any additional fees are missing or due, please charge to **Deposit Account No. 50-0805**
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Respectfully submitted,
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